Contrapuntal Language and Row Derivation Technique in Chamber Music of the Second Viennese School: Analysis and Application

An Honors Thesis (HONRS 499)

by

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Abstract

As a composer and music theorist, it is important to understand the work that came before in order to learn and grow in one's compositional style. This project spans both the compositional and theoretical aspects of the twelve-tone works of the Second Viennese School of composers, consisting of Arnold Schoenberg, Alban Berg and Anton Webern. The early work examined here in the compositional method developed by Schoenberg spans a period of approximately a decade, from 1926-1936. I have analyzed the first movement of a chamber work by each of the three composers. Following the analysis is a newly composed work loosely based on the analyzed technique in the genre of string chamber music. The author's statement consists of both an analysis of the three works and a discussion of my own compositional process.

Acknowledgements

I would like to thank Dr. Eleanor Trawick for her unfailing guidance in this endeavor. Without her this thesis would not exist.

I would also like to thank Dr. Murray Steib and my sister Athena for ultimately putting me on the path toward this work.

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Author's Statement: A brief introduction

The purpose of my thesis project was to gain an insight into Twentieth Century analysis as well as to develop my own compositional language by studying the work of three composers whom I admire. I spent one semester studying the early serial chamber music of Schoenberg, Webern and Berg, and my study has resulted in a chamber work movement of my own, composed during the subsequent semester, though not strictly serial. Below is a discussion of my findings regarding analysis over the first semester, followed by an analysis of my own composition.

What is Serialism?

Arnold Schoenberg is arguably one of the most influential composers of the twentieth century. His writings on tonal music theory as well as development of atonal theory are unparalleled. It is prudent to cite Schoenberg's writing on twelve-tone music when discussing serialism since it was he who created the compositional technique. In what Schoenberg calls the *Method of Composing with Twelve Tones Which are Related Only with One Another*, what we now term *serialism*, the "method consists primarily of the constant and exclusive use of a set of twelve different tones. This means, of course, that no tone is repeated within the series and that it uses all twelve tones of the chromatic scale, though in a different order."[1] From the first set of tones, or tone row, three other rows are automatically derived. These are the inversion, retrograde, and retrograde inversion. The retrograde is simply the twelve tone row presented backward. The inversion is the row beginning on the same first note but with the opposite

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[1] Arnold Schoenberg, "Composition in twelve tones," in *Classic Essays on Twentieth-Century Music: a continuing symposium*, edited by Richard Kostelanetz and Joseph Darby. New York: Schirmer, 1996, 237.

intervals; if the first interval in the primary row is an ascending fourth, then the first interval in the inversion would be a descending fourth, and so on. The retrograde inversion is the inversion presented backward. Each one of these rows, the primary, retrograde, inversion, and retrograde inversion can be transposed, starting on each pitch of the chromatic scale, thus creating 48 related rows which make up the twelve tone matrix. Schoenberg was searching for a way of organizing atonal music that would eventually be "comprehensible" to the modern listener.

Once Schoenberg found his method, he and two of his most notable students, Alban Berg and Anton Webern, began using this technique in their compositions. These three composers are known today as the Second Viennese School, and each brought his own compositional style to this new method of organizing pitch material. What follows are analyses of the beginning movements of chamber works by each one of these composers.

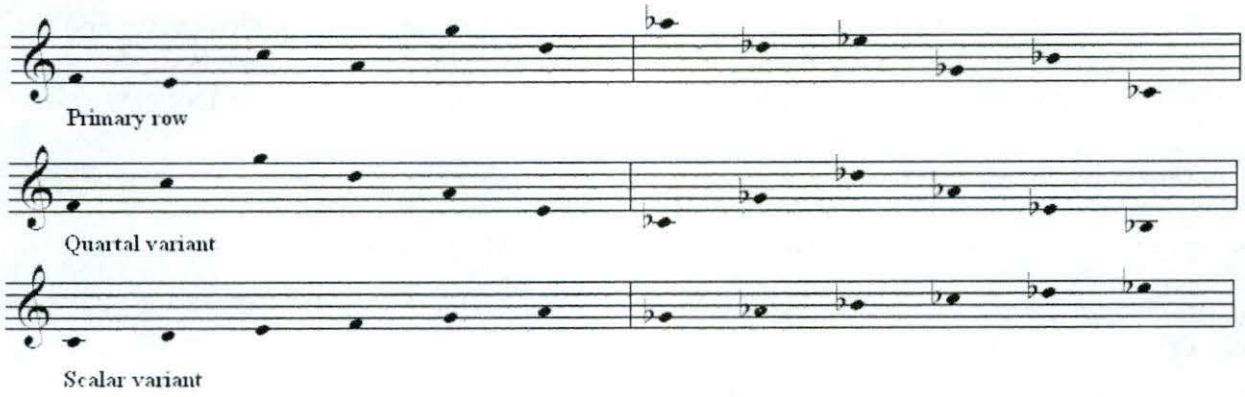
Studies in the Twelve-Tone Chamber Music of the Second Viennese School

Because my study of Alban Berg in previous courses got me on to this topic, I began with studying the first movement of Berg's *Lyrische Suite*, a precursor to the first twelve-tone opera, *Lulu*. The whole suite is not serial, only the outer movements, and Berg's ingenuity in deriving rows in his opera is most likely based on what he was able to accomplish in the *Lyrische Suite*.

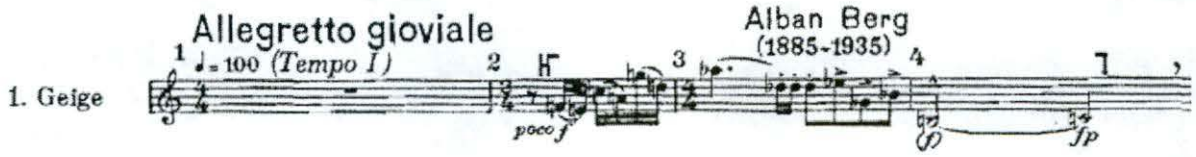
Not surprisingly after my study of Berg's derivation techniques in *Lulu*, I found that Berg did not limit himself to the 48 canonic tone rows of the twelve-tone matrix. He purposely picked a row that could be used in several different ways. His row, arranged in two hexachords separating the "white keys" and "black keys" of the piano into an all-interval pattern, could also be arranged in two hexachords arranged in fourths or fifths or two stepwise hexachords (example 1). These derivatives themselves create another store of motivic material used in this movement.

Along those lines, Berg seemed to consider at least his initial row in more of a melodic and motivic way than harmonically. Though he plays on the use of quartal and quintal harmonies because of the nature of his row, his rows are usually used in one instrument at a time as a melodic gesture. Even when the row components are stacked in one or two beats, the perception of the listener is still one of melodic content being used in each of the parts of the quartet.

Example 1. Primary row permutations, *Lyrische Suite*



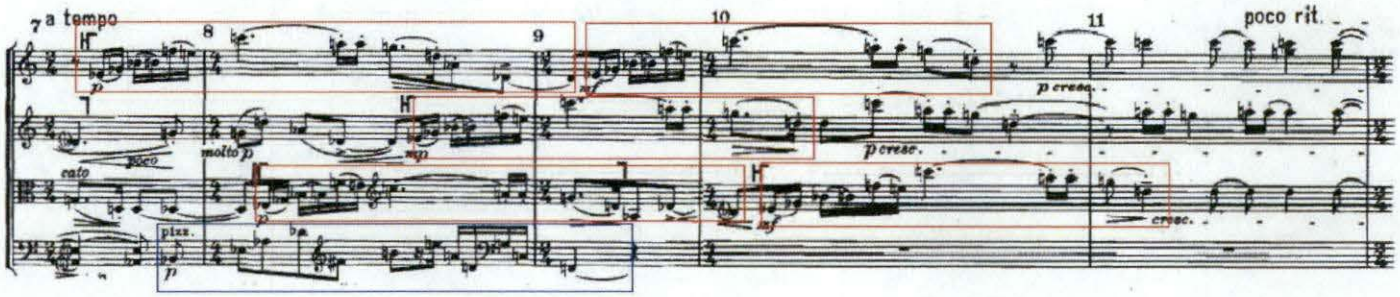
Example 2. First theme, *Lyrische Suite*, mvmt. 1, mm. 1-4



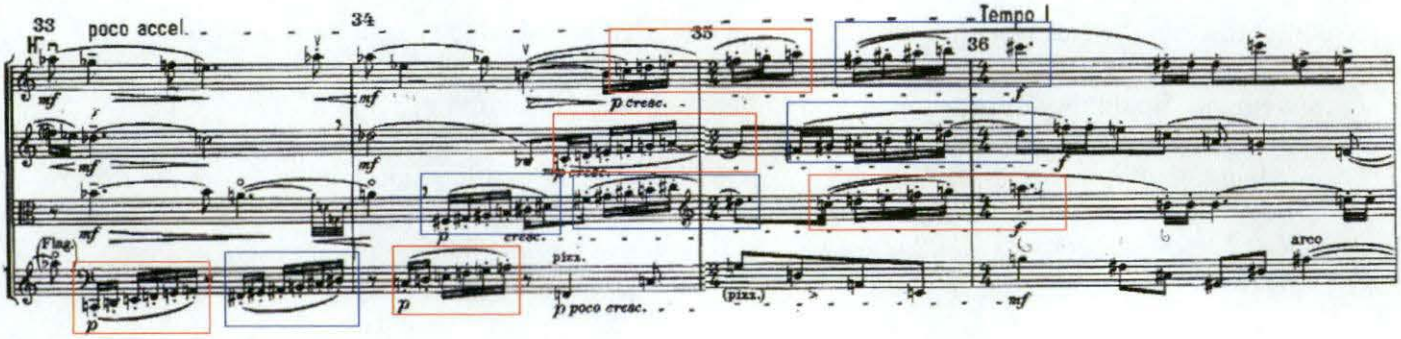
Each of Berg's row permutations results in melodic material with a specific purpose. The original row form is first presented in the first violin beginning in measure 2 (example 2). The content within the *Hauptstimme* is thematic material that is elaborated upon throughout the movement. Beginning in measure 7 is an imitative presentation of this thematic material, this time beginning in the middle of the row form on e-flat and wrapping around to the beginning to finish out the row. The first violin, then viola, then second violin, and then first violin again

present this material, highlighted by red boxes in Example 3. The four main rows in their original order are generally used for thematic material. The first use of Berg's second permutation of his row, arranged in fourths and fifths, begins in the anacrusis to measure 8 in the cello, highlighted in blue in Example 3. The first hexachord occurs in ascending fourths and the second hexachord in descending fifths. The quartal variant, in its entirety, is primarily used as accompaniment, usually in pizzicato. The final permutation of Berg's row first occurs in measure 33 beginning in the cello and continues in imitation throughout the string quartet. In Example 4, the scalar variant is divided into the white-key hexachord, highlighted in red, and the black-key hexachord, highlighted in blue. Berg uses this permutation here as an accelerando to his primary tempo in measure 36. This scalar variant is used when accelerating the tempo. Berg not only came up with different ways of varying his rows which would eventually lead to his work on *Lulu*, but had a specific purpose for each variant.

Example 3. Primary row and quartal variant, *Lyrische Suite,* mm. 1-11

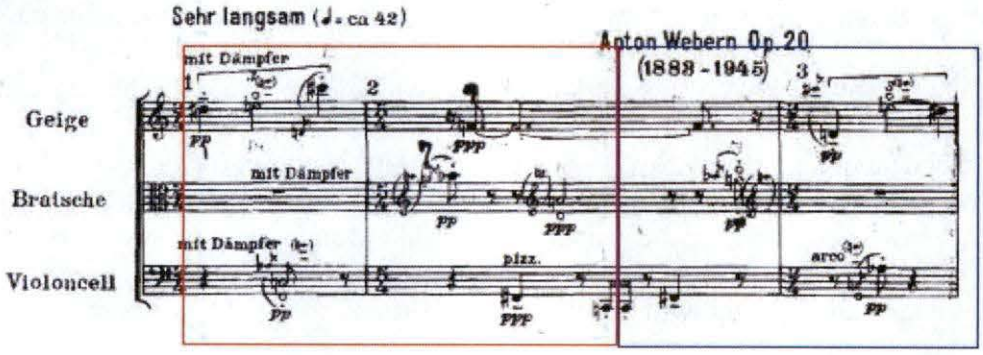


Example 4. Scalar variant, *Lyrische Suite,* mm. 33-36



In contrast to Berg, Webern's op. 20 string trio presents his rows as sounding in all four instruments, with no presentation of the row in any melodic fashion. The primary row, P-3, and its retrograde, R-0, are highlighted in red and blue respectively in Example 5. Webern also uses no row that is not one of the 48 canonic derivations in the twelve-tone matrix. His row, made up of semitone dyads, is presented in an almost ethereal way because of his use of grace notes and harmonics. Webern's penchant for pointillistic texture is evident in his presentation of each row, as the dyads are often presented octaves apart because of the use of harmonics or the extreme range of each instrument. With each row representation, Webern sometimes elides the beginning and ending of each row, or sometimes repeats a note that will constitute the end of one row and the beginning of another.

Example 5. P-3 and R-0, *Trio op. 20*, mm. 1-3



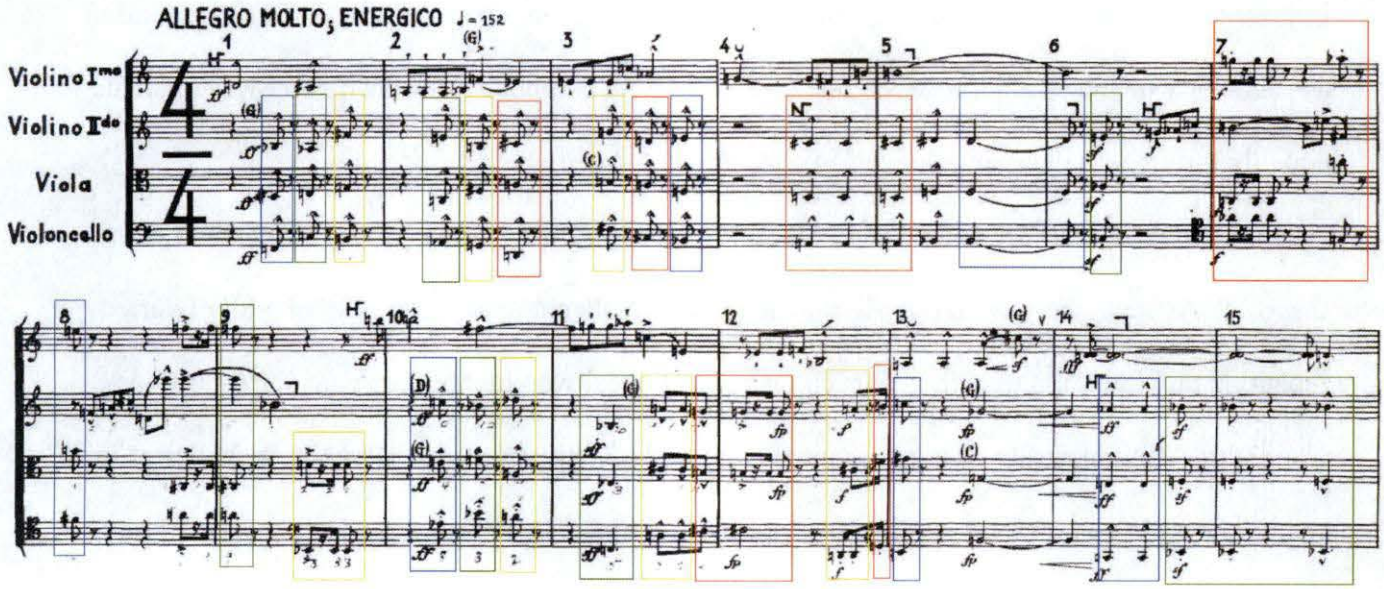
From a formal standpoint, both Berg's and Schoenberg's first movements are in a loose sonata form, but Webern's first movement is not in any specific traditional form. This contrast in attitude toward traditional forms may largely have to do with the different philosophical ideas behind composition for all three of these composers, as Webern is often considered the "Father" of Modernism, a movement associated with a rejection of everything past, while Schoenberg and Berg considered themselves to be taking the next step in the development of classical music.

In his article "Composition with Twelve Tones" Schoenberg lays out specific rules for composing serial music. However, in his fourth string quartet, still early in his development of the technique, many of these rules did not yet exist. Like Berg's *Lyrische Suite*, the row is largely presented as melodic or motivic content, but one important aspect of this piece is Schoenberg's use of trichords. Breaking up the twelve-tone row into the four discrete trichords gives Schoenberg the advantage of creating his own harmonic content without the conventions of tonal harmony. The trichords are used in the same way as tonal chords, and the voice leading still adheres to tonal rules. This contributes to the idea that Schoenberg felt his music was a logical next step, and not an abandonment of the traditions of classical music. The same rules that govern a notable melody, smooth voice leading, and formal organization still exist in his music, but with a new regard for rules governing a system of composing without tonal emphasis.

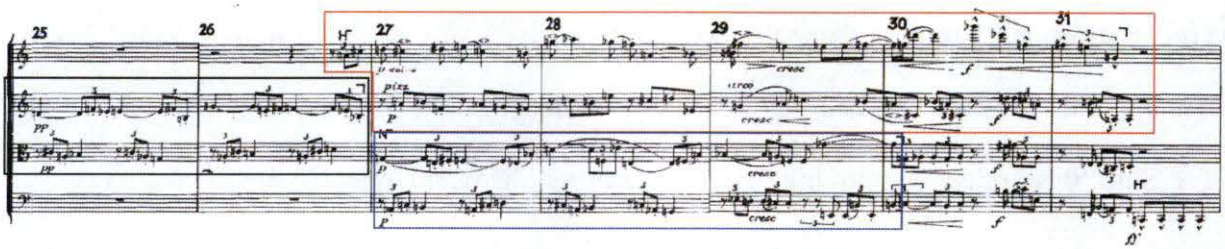
Because Schoenberg's quartet movement was so much larger than the other movements I analyzed, I limited my analysis of his work to the exposition, mm. 1-65. In the beginning of the movement, Schoenberg's primary row, P-2, is presented in the violin (example 6). What is under the *Hauptstimme* is entirely the primary row, unlike Berg's melody, which included a note outside his primary row. Along with this theme, the bottom three instruments present the primary row in trichords, which are not in any particular order, but demonstrate smooth voice leading. In the anacrusis to measure 7, the second violin has a contrasting theme that is a presentation of I-6, an inversion of the primary row (example 6). Along with this theme, the other three instruments are again sounding accompaniment figures of the trichords, this time presented in order from 1 through 4. Another statement of the first theme in the violin at measure 10 is a presentation of R-11, the retrograde of the primary row (example 6). Again, the other three instruments sound the trichords in the same order as the beginning, which lends some credence to the idea that Schoenberg conceived these trichords as a kind of harmonic progression

outside the confines of tonality. At measure 21 Schoenberg uses the trichords of I-6 as melodic content grouped together by his use of triplets. Beginning in measure 25 he begins to pair instruments together in their presentations of first the primary row and then I-6. First the second violin and viola are paired, then in measure 27 the violins are paired and the viola and cello are paired (example 7). Throughout the exposition Schoenberg uses the notion of trichords both harmonically and motivically.

Example 6. *Fourth String Quartet*, mm. 1-15



Example 7. Instrument pairings, *Fourth String Quartet*, mm. 25-31



The approach of each composer to twelve-tone composition is markedly different. Each composer decided what the focus of his composition would be and used that to govern how he used the twelve-tone method, as he would with any other compositional method.

Composition with Twelve Tones: My Creation of a Chamber Movement

It is important to note that although this piece was not my first chamber work, it is the largest ensemble for which I have composed. As a string player, I have played string chamber music from the Baroque Era to the Twentieth Century, and my only other chamber work aside from this string quartet did incorporate the viola, which I played; however, this was my first endeavor writing for a group of strings. When first conceiving this piece, I considered replacing one or two of the string parts with a double reed instrument, partly to get away from the imposing genre of the string quartet, but I eventually decided to keep the original instrumentation as part of my own learning process. One goal of mine in composing for the quartet was to create equality throughout the string quartet. As a violist, I have often experienced being an accompanimental instrument and wanted to refrain from limiting any of the instruments to just that role. As such, the viola has a big role in presenting thematic material. I used a lot of varied repetition and imitation to help give each instrument equal weight, and there are small portions where three of the instruments are accompanying one other instrument. My biggest challenge in writing for string quartet, however, was writing for violin. The first violin part in particular has some challenging parts with regard to register. Being familiar with the technique of the instrument but less familiar with the comfortable range caused me to second-guess myself several times when writing for the instrument. Ultimately, after consulting some violinists, I kept much of the original material I wrote for the violin.

Since this project was not my first interest in serialism and other twentieth-century compositional techniques, I decided to begin with a row I had created for another piece and think about what I liked and disliked about that row before creating my new row. After some examination of that row, I decided to switch the two middle trichords in position and keep the outer trichords where they were, which incidentally created tonal pockets inside the atonal row

(example 8). I liked the augmented triad created by the first three notes, A, C# and F, and wanted to keep that sound in the row.

Example 8. Primary row, *Comprehensible Dissonance*

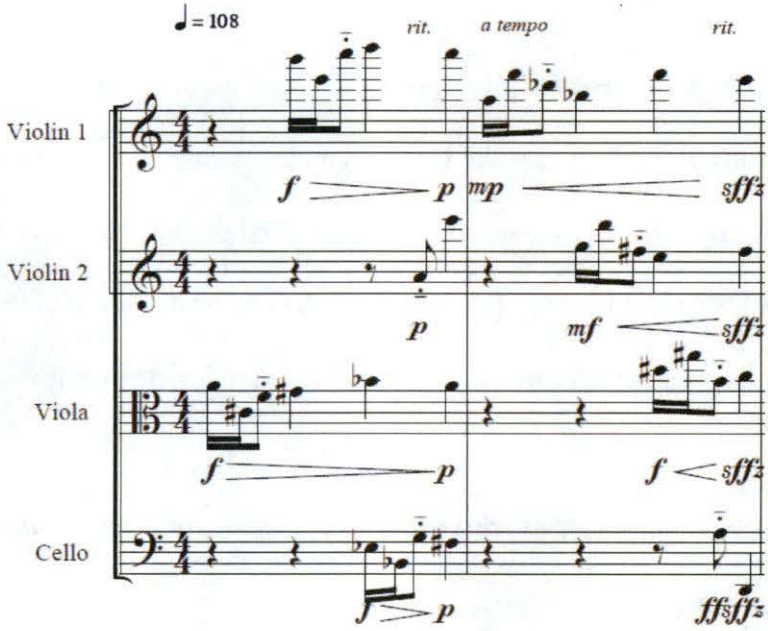
Once I had a row established, conceptualizing the piece was the next step. I have often composed with text to guide the formal structure of my works, so with instrumental music where text is lacking I often turn to strict instrumental forms to help structure a work. With this work, I decided to use sonata form. This posed some interesting questions, since sonata form is traditionally tied to a specific tonal plan, and the absence of tonality creates some issues with distinguishing the different parts of the form.

Sonata form has three major parts: the exposition, development, and recapitulation. The exposition normally consists of a first theme in the tonic key, a transition which generally modulates to a contrasting key, where the second theme, often contrasting in character, and the closing material cadence in the contrasting key. The development is associated with harmonic exploration as well as motivic development, which may consist of the fragmentation of the first or second theme and sequencing of those fragments. The development section is also sometimes associated with a storm, often because of the tonal instability. At the end of the development, there is generally a dominant prolongation, or extension of the dominant harmony, to prepare for the return of the tonic key in the recapitulation. The recapitulation is generally a repeat of the exposition, with two important differences: the second theme is presented in the tonic rather than the contrasting key, and there is sometimes a coda after the second theme.

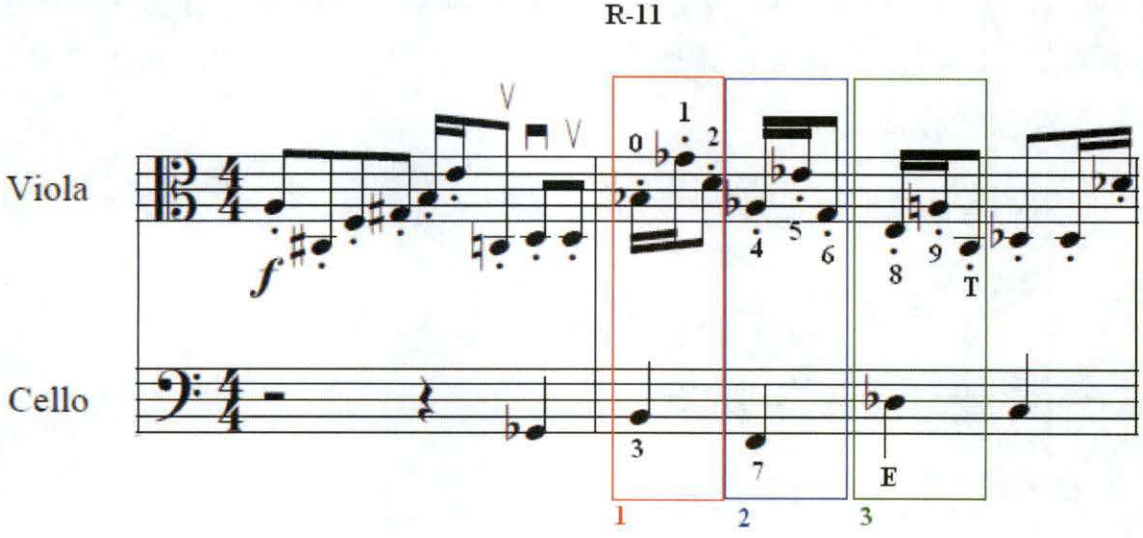
One can see that marrying a form based on tonality to an atonal pitch structure can be difficult. Some problems I had to reconcile were how to differentiate between the first and second themes, and then how to approach the second theme in the recapitulation in order to allude to the traditional key change. The development was also a challenge because tonal instability cannot be established without tonality, and it was difficult to develop or sequence fragments of my first or second theme without becoming formulaic.

I decided to begin the piece with a short two-measure introduction that took advantage of a leap-step gesture inherent in my row (example 9). Two leaps in opposite directions resolved by step became a motivic constant throughout the piece. The introduction was presented in two gestures, the first ending quietly and the second ending in sforzandi. The first theme, beginning in the viola, is loosely based on the implications of the two-measure introduction. The rhythmic gesture accompanying the melodic content, two sixteenth notes followed by an eighth note, is prevalent in the first theme. The accompanying long notes in the other strings serve to offset the angular quality of the theme. An important aspect of the second measure of the theme is the duet between the viola and cello. What were presented as three tetrachord gestures in the introduction are reduced to three note gestures in the viola, so the fourth note of each tetrachord is sounded in the cello to keep the integrity of the row at this point (example 10). The remainder of the first theme section is presented in imitation, with the first violin entering at the end of measure four with the theme transposed by fifth. Each subsequent instrument is given its own version of the theme, with some slight rhythmic differences, and always beginning on the last beat of the previous theme statement.

Example 9. Introduction, *Comprehensible Dissonance*



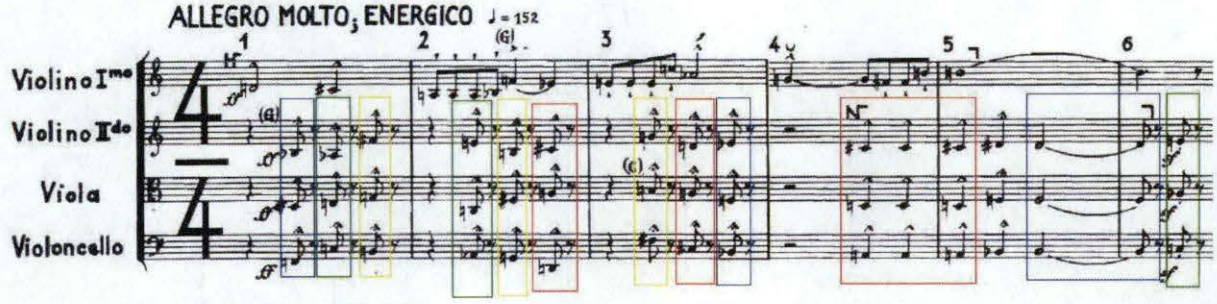
Example 10. R-11 tetrachords, *Comprehensible Dissonance*, mm. 3-4



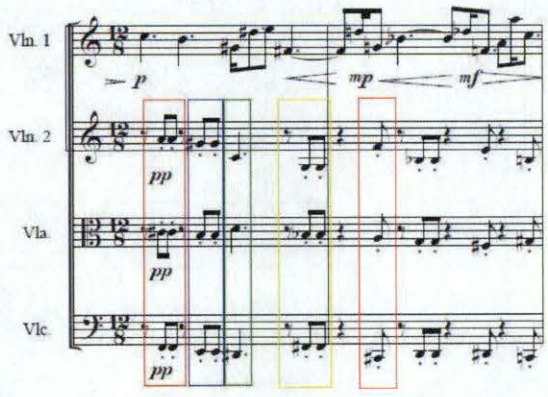
To contrast the second theme with the first, I not only used a retrograde-inversion of the original row, but created a more lyrical theme in a compound meter. Since the second theme could not be distinguished from the first tonally, changing the meter and character of the thematic material was my way of creating that difference. In this theme, initially dominated by

the first violin, the accompanying strings are sounding trichords derived from the original row form, in the spirit of Schoenberg. The harmony without tonality in this section was one technique borrowed from my study of Schoenberg's Fourth String Quartet (example 11). The second theme's closing material is derived from the melodic content appearing as a result of sharing the row form between the viola and cello in the first theme. At the end of the second theme, I took the cello's melody, now divorced from the rest of its row, and used it as a basis for the sustained notes throughout the quartet. This is a technique borrowed from Berg and his derivation techniques.

Example 11. Schoenberg *Fourth String Quartet* vs. *Comprehensible Dissonance*



Fourth String Quartet, mm. 1-6.5



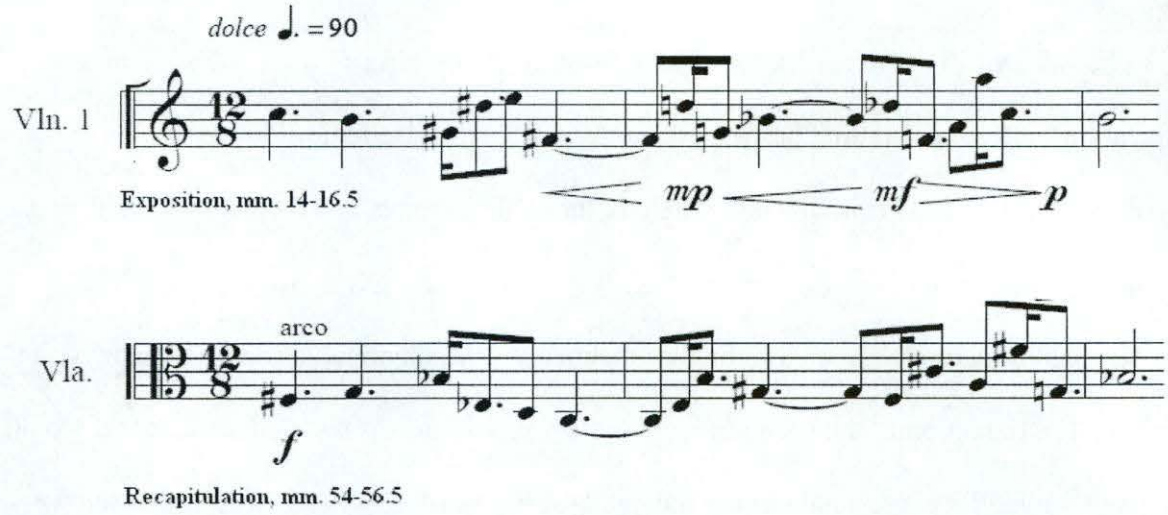
Comprehensible Dissonance, mm. 14-15

The development section was a challenge for me because of the lack of tonal center to help create a feeling of chaos. What the general listener would recognize as chaotic is already an aspect of atonal music. Again, I turned to rhythmic gestures to reconcile this issue. One of the

main differences between the first and second theme is the change in meter, so I decided to highlight this difference by having both meters, 12/8 and 4/4, happening at the same time. This served as both a transition from 12/8 to 4/4 and a way of developing some of the content used in the exposition. An extended duet between the outer voices then transitions to long notes in the outer voices, again derived from the cello melody in the first theme, and a compression of first theme content in the viola.

The recapitulation begins with the first theme outright, identical to the first theme in the exposition. The transition to the second theme in the exposition was a singular event that would not have the same effect if repeated in the recapitulation, so instead I used the introduction material, presented here in pizzicato, to transition to the second theme. The reconciliation of the second theme key change in the recapitulation happens in several different ways. First, the row form is a retrograde of the primary row form rather than a retrograde inversion. This gives the second theme an inverted contour (example 12). The theme is also presented in the viola this time, instead of the first violin, and the accompanying material is akin to the introduction material rather than the trichords in the exposition. I also decided to carry over the pizzicato from the transition material to help offset the theme more prominently. The second theme area in the recapitulation is also expanded as opposed to the exposition, including the closing material which uses similar material. Continuing the use of pizzicato, I ended this movement with the introduction material, though the gestures are switched, beginning with the first gesture in pizzicato and the second gesture arco.

Example 12. Second theme comparison, *Comprehensible Dissonance*



In terms of twelve-tone technique, the thematic areas often begin serial but quickly move away from the strict rules set forth by Schoenberg. The introductory gestures are a microcosm of this effect. Each instrument begins with a four-note gesture, with the exception of the second violin, and each subsequent gesture sounds the next notes in the row. However, once the four-note gesture is ended, each instrument sounds notes which are not particular to the row or any row form. The gestural and melodic aspects of this movement were of more importance to me than strict serialism, which is somewhat in the spirit of Berg. Though Berg's move away from the strict rules of serialism had more to do with row form derivation than my own way of using serial techniques, Berg is certainly an influence in my composition of this piece. I used serial techniques as a way of deriving melodic material that could be related without the use of tonality, but in general I preferred not to be constricted by the stringent rules set forth by Schoenberg.

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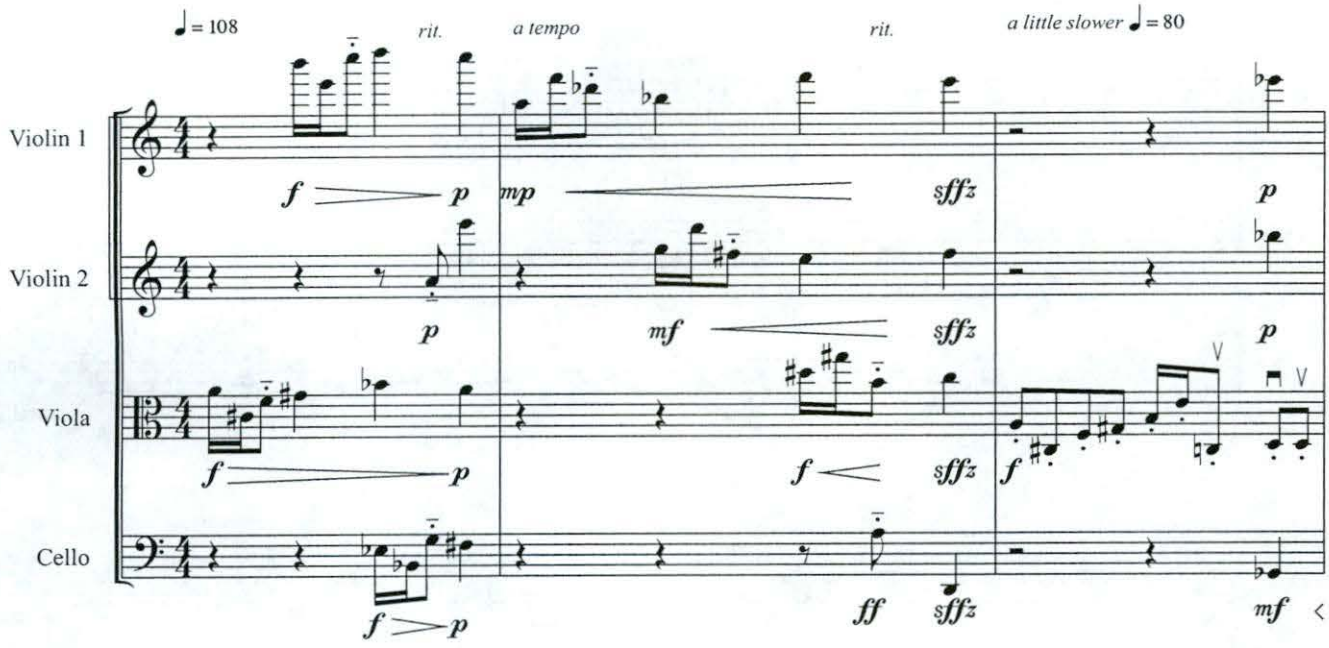
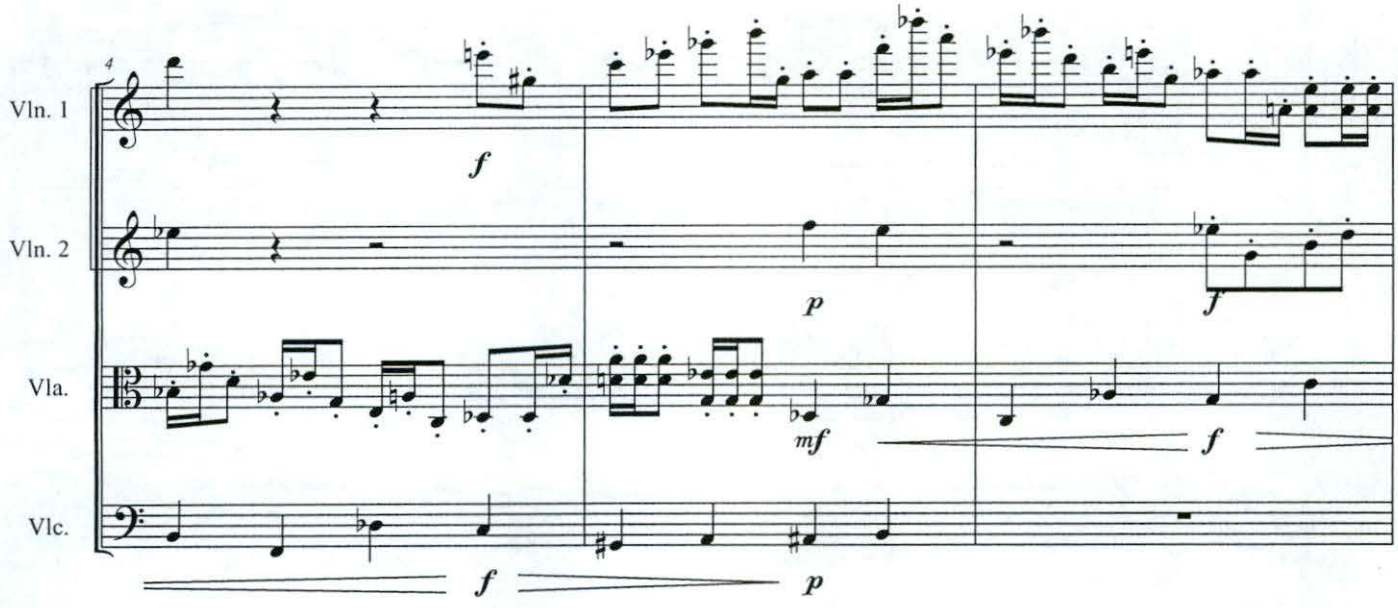
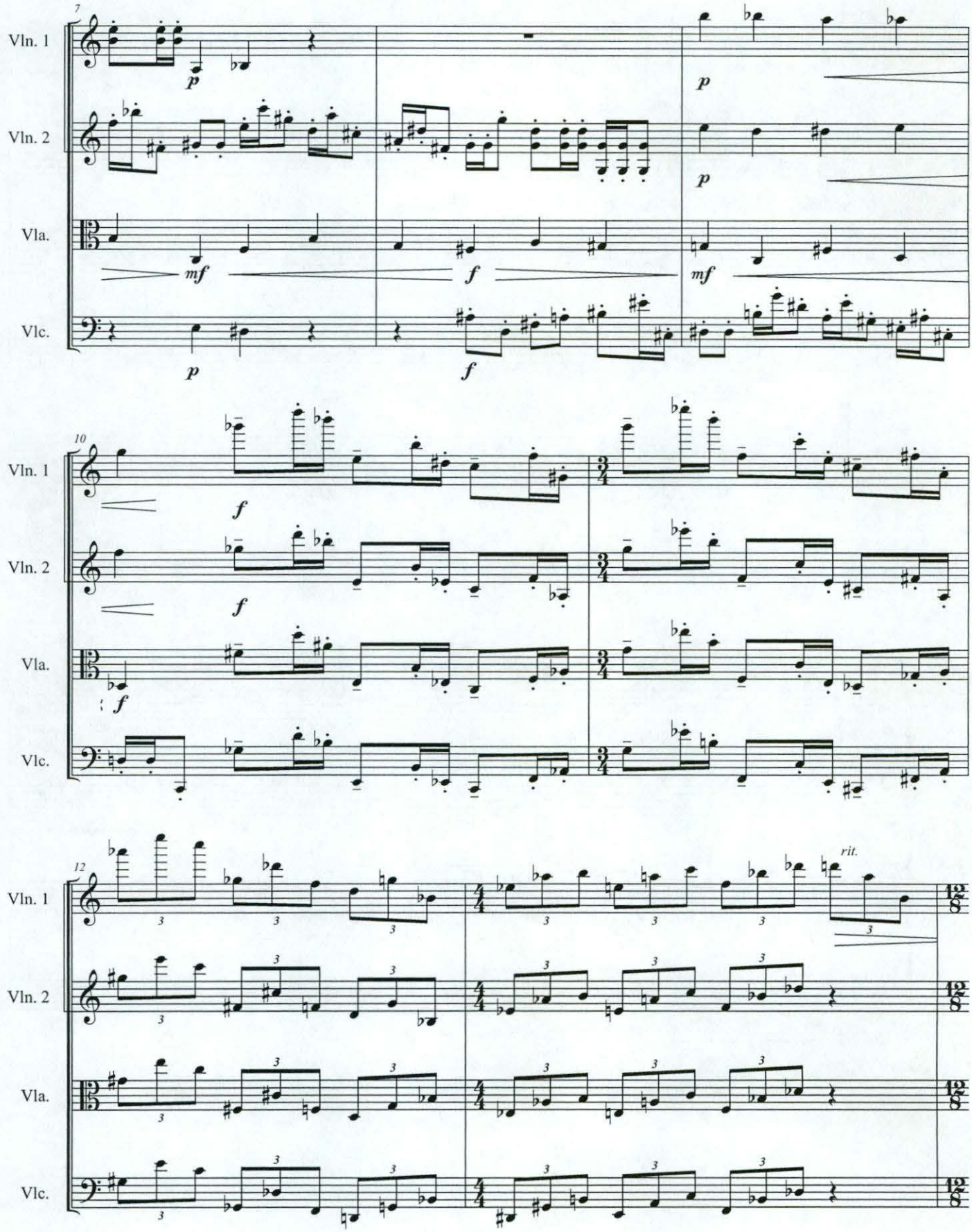
Comprehensible Dissonance

Serial Etude

Ayriole Frost



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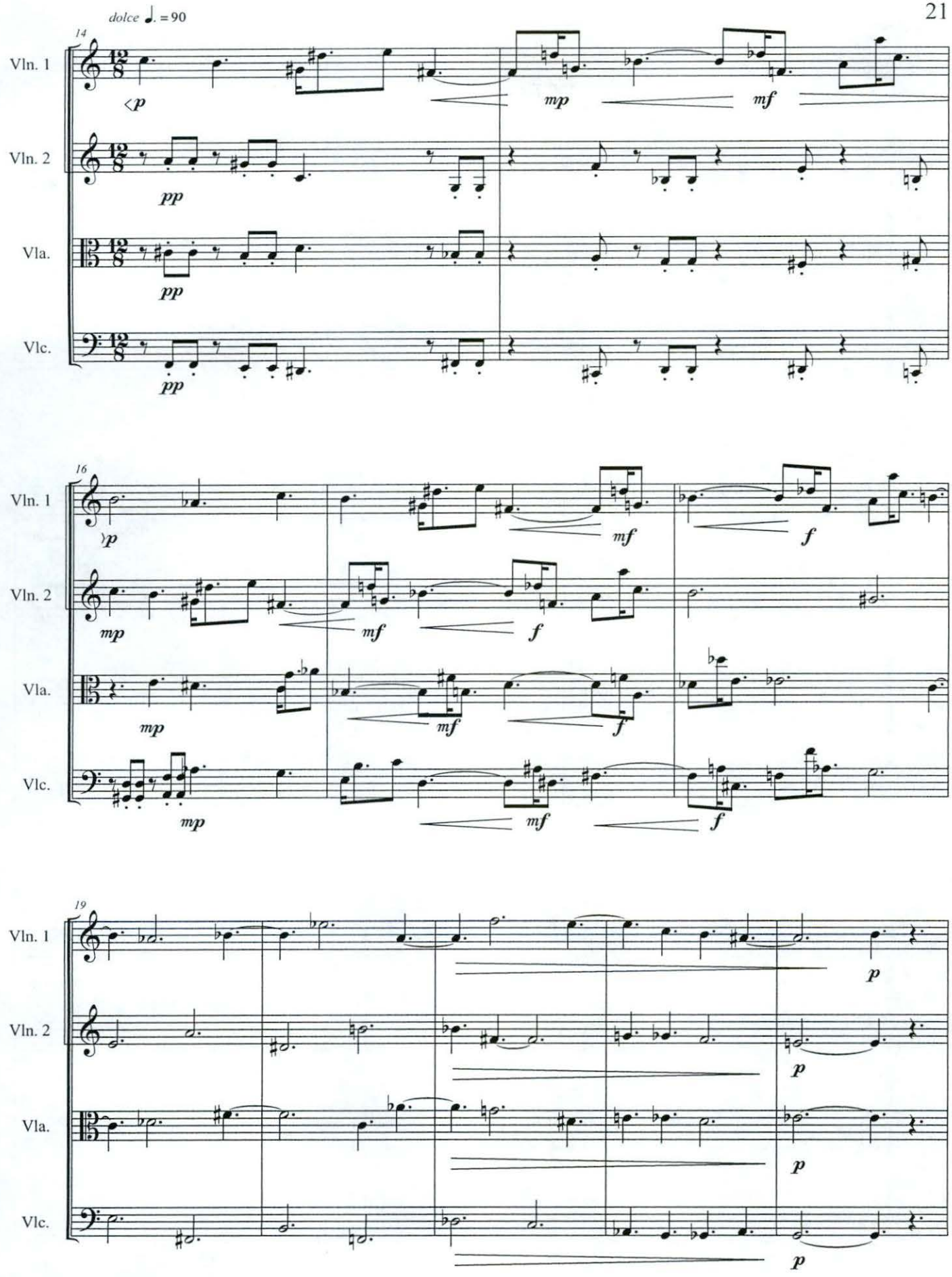
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Vla.
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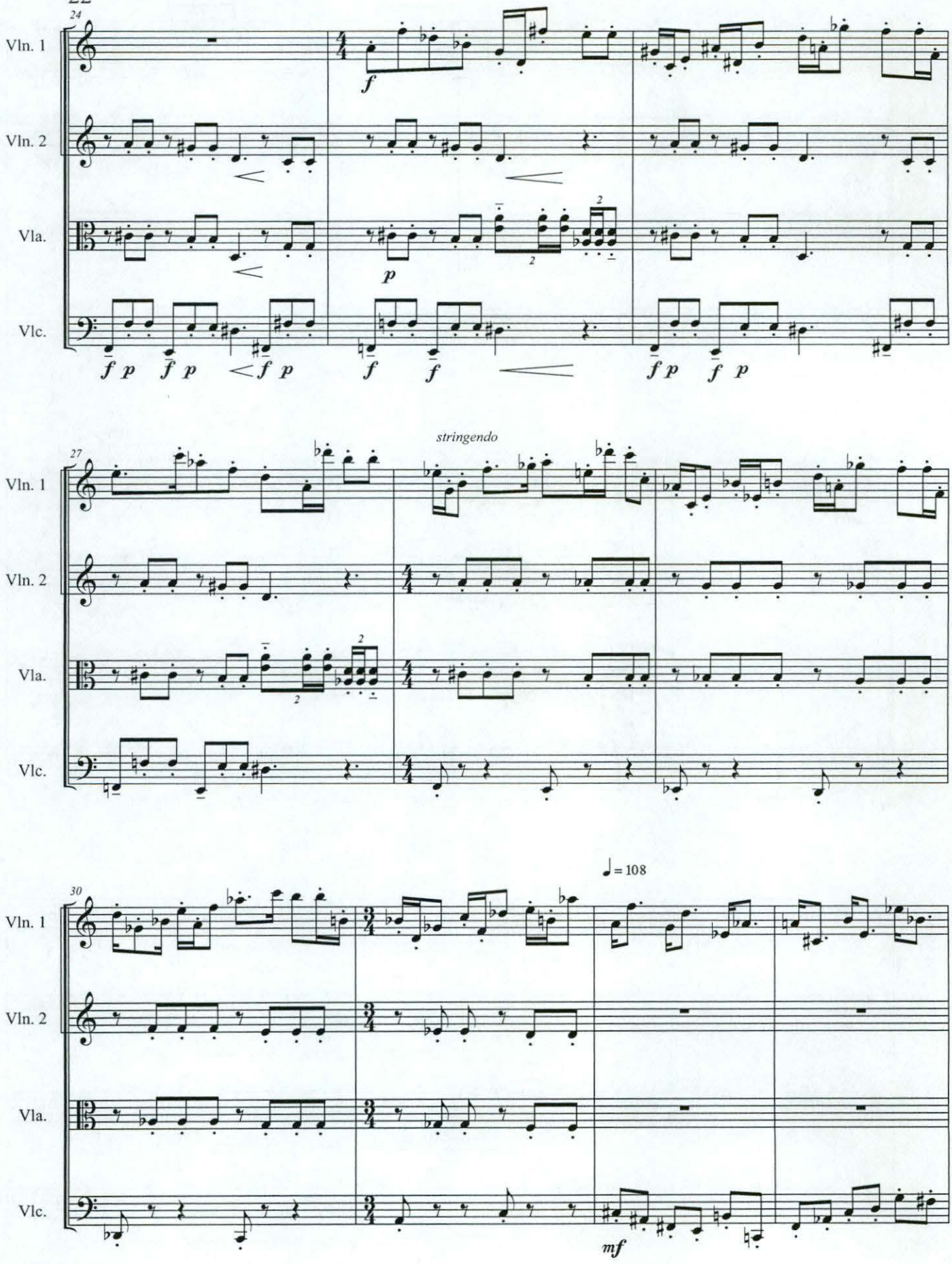
16
19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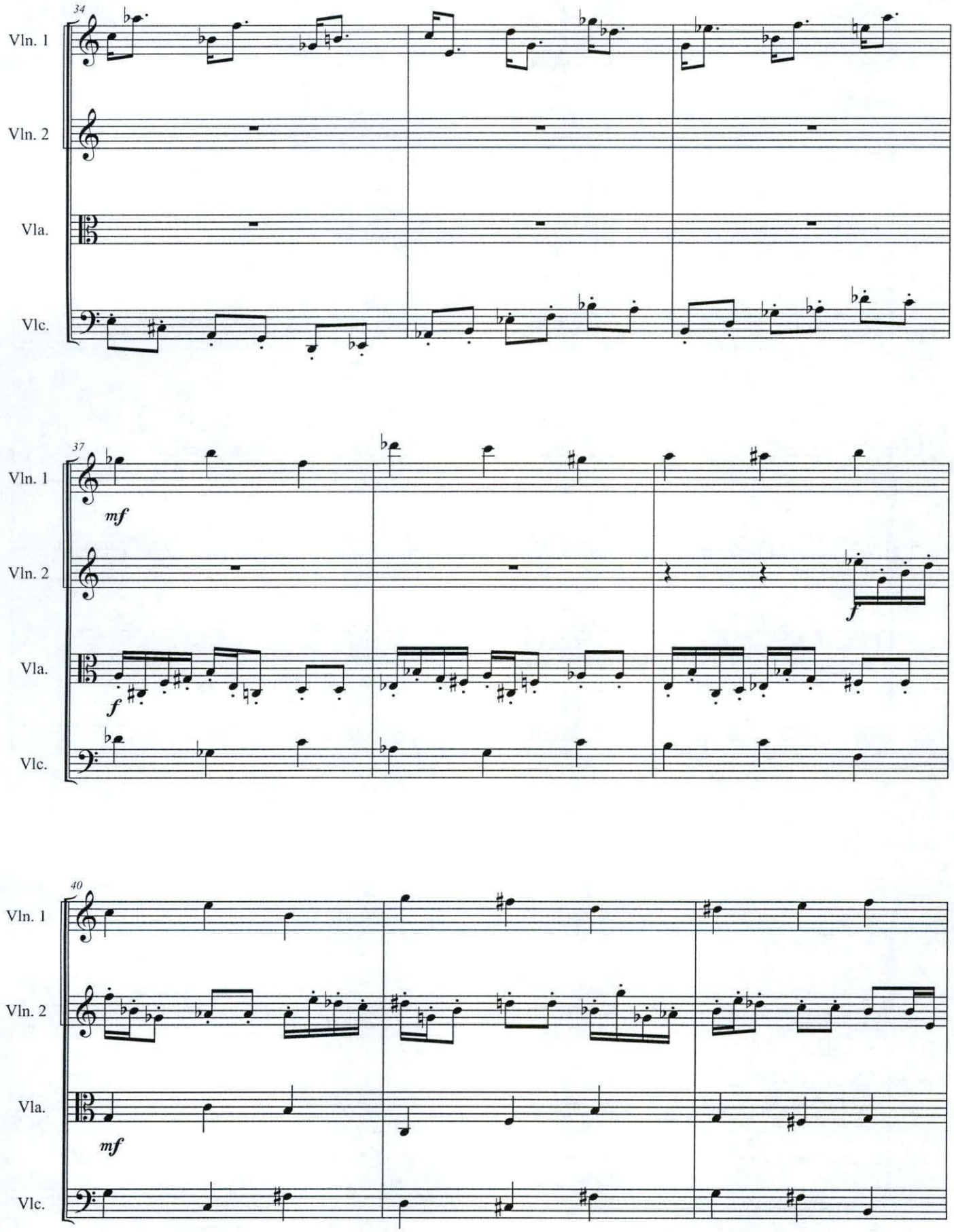
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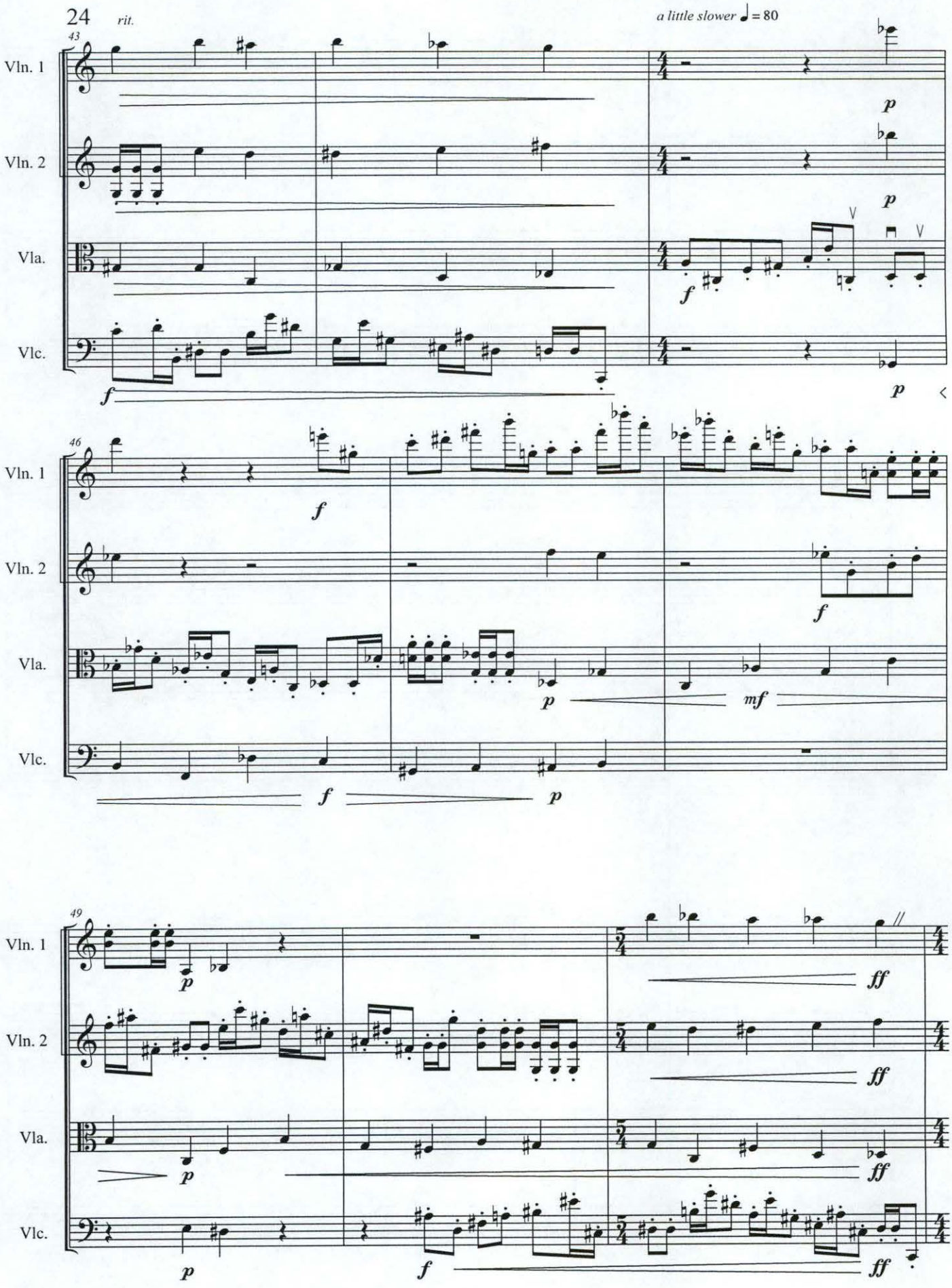
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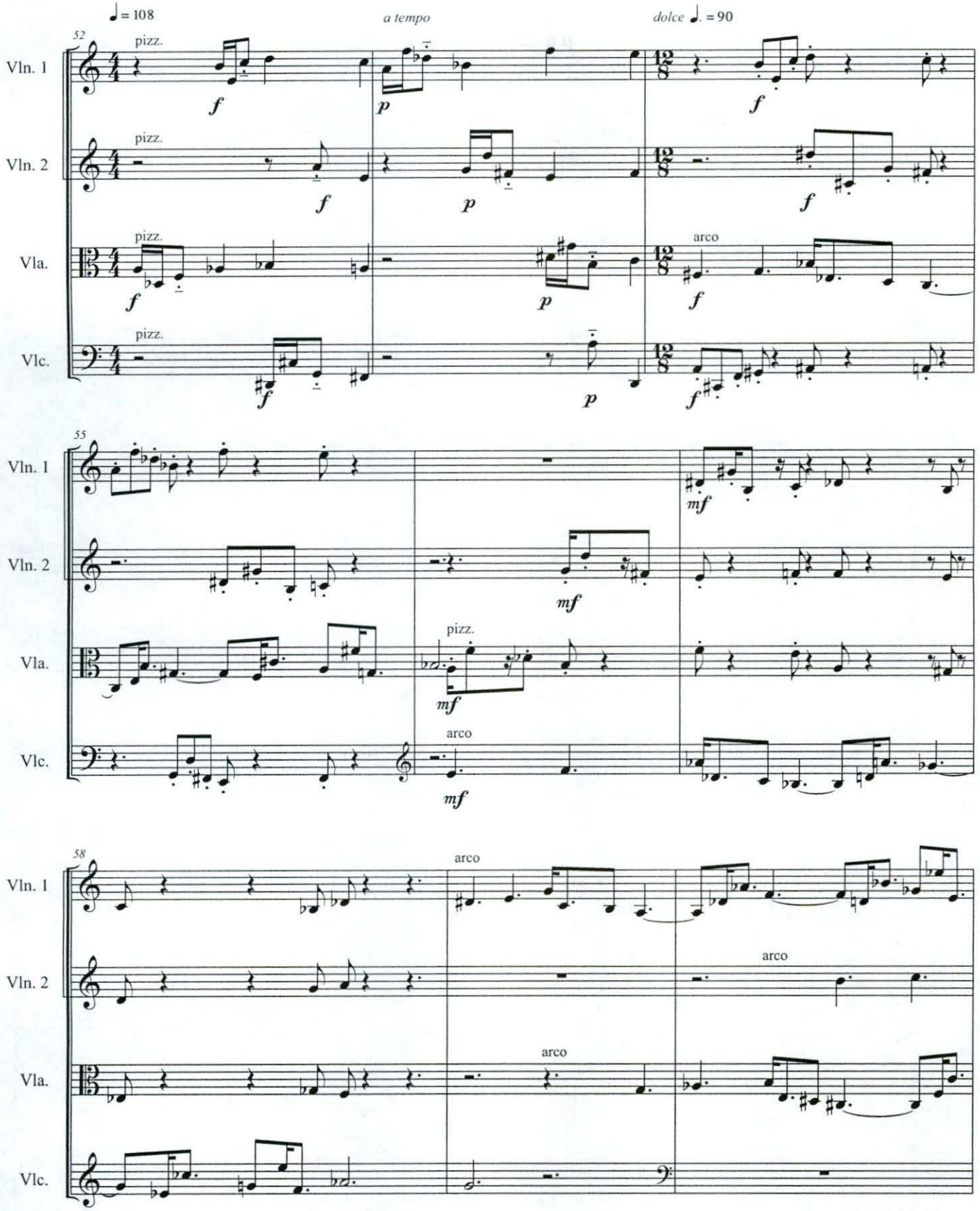
49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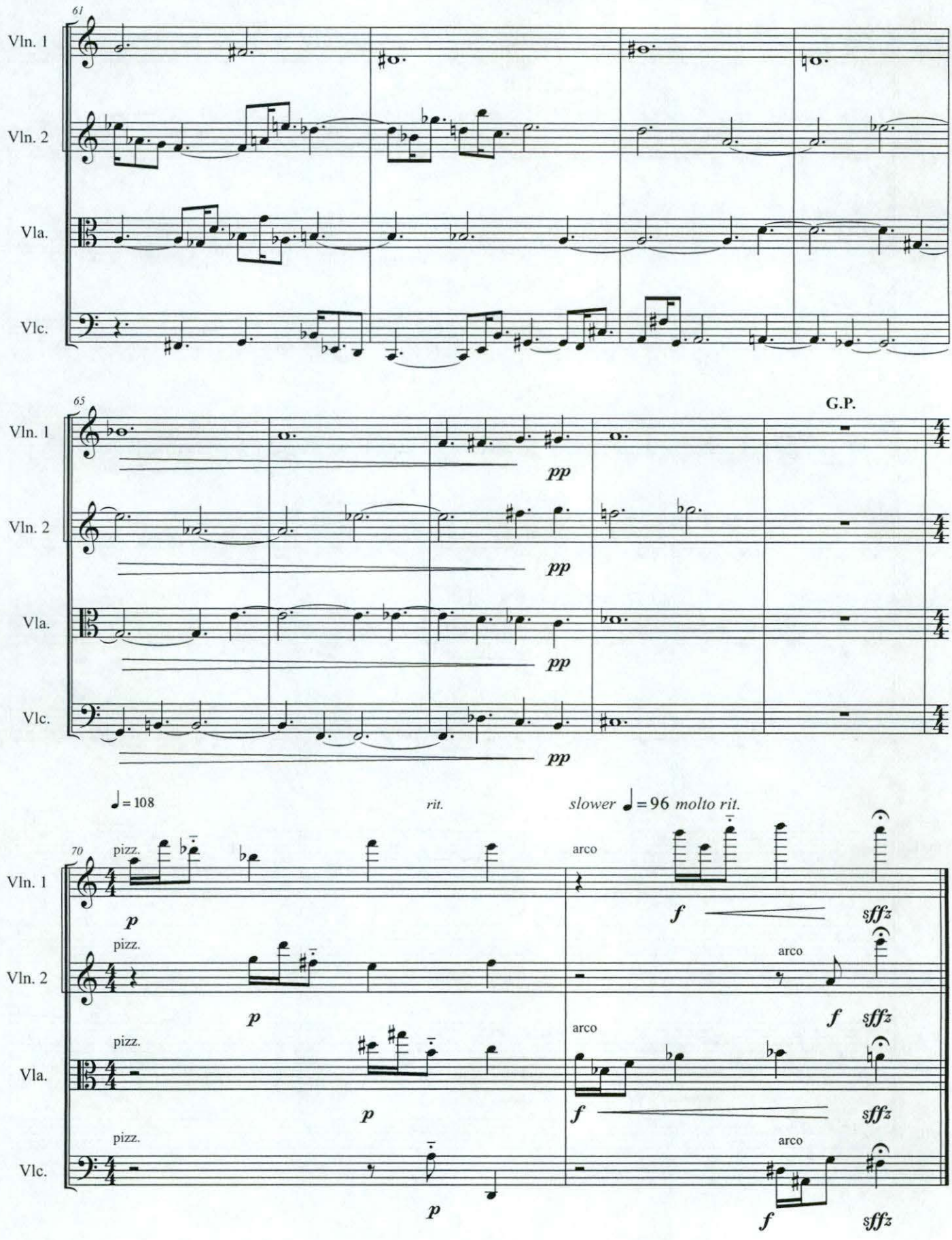
a tempo
dolce ♩. = 90
52
Vln. 1
Vln. 2
Vla.
Vlc.
pizz.
arco
f
p
55
mf
58


61
Vln. 1
Vln. 2
Vla.
Vlc.
65
G.P.
pp
♩= 108
rit.
slower ♩= 96 molto rit.
70
pizz.
arco
p
f
sffz